REMARKS

Claims 12-13, 16-28 and 32-33 remain in this application.

The examiner rejected claims 12 and 33 as vague and indefinite, saying that the phrase "primary element of an electrical machine" is unclear, undefined and not apparent to the skilled artisan. Contrary to what the examiner has stated, a skilled artisan in the electric motor art would clearly understand this phrase as a term of art which means that the element is either a stator or a rotor, for example of an electrical motor.

And further, this phrase is supported in the specification, most particularly in paragraph 21 wherein it is stated "... a **primary element** or in other words a stator or a rotor of an electrical machine will be described in terms of a slotted armature body 10 of an armature of a direct-current motor. The armature body 10, which can be seen end-on in Fig. 2, comprises a plurality of profiled laminations 11, which are lined up one after the other to form a so-called lamination packet and are axially joined firmly together. Instead of a profiled lamination packet, the armature body 10 may be embodied as a solid cylinder of soft magnetic composite material, or SMC (Soft Magnetic Composite) material. The armature body 10 is provided in a known manner with a plurality of axial slots 14, located equidistantly over the circumference of the body, for receiving an armature winding."

The examiner has also indicated that claim 33 is vague and indefinite because "it contains method limitations in an apparatus claim...." . This rejection is not understood since line 1 of claim 33 starts "A method for applying....". Contrary to the examiner's statement, claim 33 is a method claim, not an apparatus claim.

Further on in the rejection of claim 33 the examiner states "Applicant cannot properly claim a combination of a device and a material worked upon". As stated, this part of the rejection simply does not make sense, since claim 33 recites a method. Within the particulars of applicant's novel invention is included that the spraying must be preformed with particles of at least a mean diameter of 150 μm. Clearly if the invention requires such a size of particles, it is most appropriate to include such a recitation in claim 33.

And further with regard to this rejection, merely placing method recitations in an apparatus claim does not necessarily make such an apparatus claim indefinite. Even if claim 33 were an apparatus claim, the mere fact of adding method recitations in it would not necessarily make it indefinite. Such a conclusion is dependent on the particular circumstances, and must be determined by the specific recitations of the claim in question.

Claims 12, 28 and 33, all of the independent claims in this application, each includes recitation that the axial slots form a Faraday cage, the interior of which is a field-free space. Prior to the present invention, the surfaces of such an interior space could be coated to a sufficient thickness only with great difficulty, and certainly not to a satisfactory thickness by a spraying method such as recited in the claims of the present application. Each of claims 12, 28 and 33 recites that the particles used to coat the body are of a size of at least 150 μm so that the coating, even within the axial slots, reaches a thickness of between 1.0 and 2.0 mm. With the larger particles, as recited in the present claims, this thickness is built up before so much charge is carried into the slots that this carried in charge prevents further accumulation of particles. In other words, all of the claims now clearly recite an apparatus, or a method, in which the coating

is built up to between 1.0 and 2.0 mm, even within the Faraday cage axial slots of the ferromagnetic body. None of the cited prior art has, or in any way teaches, such a combination of limitations. While the prior art may, and this is not an absolute certainty, teach the individual parts, these individual parts are not taught in a way such that a person skilled in the art would be lead to combine them and thus come up with the presently claimed invention.

The examiner rejected claims 12-13, 16-27 and 33 as unpatentable over Hapsburg-Lothringen in view of Hopeck, Otani et al and Matsuzaki et al. With regard to this rejection the following is pointed out:

A layer thickness such as recited in the present claims, **including within the slots** of a motor, previously has simply not been attainable by a spray coating method. Not until the knowledge which is disclosed for the first time by the present invention has such a coating thickness been obtainable within the slots of a motor by a spraying method.

According to the Habsburg-Lothringen disclosure, the greatly preferred, and in fact the **only** method for coating of an armature of an electric motor which is sufficiently disclosed so as to be a useable as a teaching, is the method of a "fluidized bed electrostatic coating," see Habsburg-Lothringen at column 4, lines 45+. While Habsburg-Lothringen does mention other methods, none of these other methods are disclosed with sufficient detail to serve as a teaching of how to coat an article. The statement in Habsburg-Lothringen of these other methods are merely a statement that the coating might possibly be done by other methods.

But most particularly, these other methods mentioned in Habsburg-Lothringen are not a complete teaching of how to coat an article which has interior slots which form a Faraday cage,

as for example the rotor and stator of a dynamo electric machine.

And it is not proper to arbitrarily assign the details of the fluidized bed method to any of the other methods which are mentioned by Habsburg-Lothringen. The teaching of how these other methods are to be accomplished is simply not present in Habsburg-Lothringen.

While Habsburg-Lothringen mentions the general concept of a spray method, the only method which is disclosed in sufficient detail so as to be usable as a reference is of a fluidized bed. Even though Habsburg-Lothringen mentions the spray method, this mention of a spray method includes no detail whatsoever. It is clearly an unfair reading of Habsburg-Lothringen for the examiner to take details of the preferred method, a fluidized bed, and arbitrarily assign these details as part of a spray method. Habsburg-Lothringen includes no details whatsoever of how a spray method would be accomplished.

Applicants briefly described the fluidized bed method in the background section of the present application at page 2, paragraphs 5 and 6. However, it is pointed out that with such a fluidized bed method, even as disclosed by Habsburg-Lothringen, it is not possible to create relatively large layer thicknesses such as between 1.0 and 2.0 mm, particularly not within the Faraday cage of the interior of the area inside the axial slots of a ferromagnetic body of a dynamo electric machine.

While Habsburg-Lothringen includes an indication that he does not want the invention to be limited to the fluidized bed method, it is pointed out that the disclosure of Habsburg-Lothringen does not provide any indication whatsoever that a "direct powder spraying onto the body" can be used to achieve a sufficiently thick coating, of between 1.0 and 2.0 mm.

And even more importantly, the disclosure of Habsburg-Lothringen certainly does not teach that such a spraying method can achieve a sufficient thickness within the slots of an electromagnetic body of an electrical machine.

The knowledge necessary to accomplish this is only presented for the very first time within applicant's disclosure.

It is certainly not available from Habsburg-Lothringen, since, as pointed out above, the only teaching from this reference which is sufficient to coat any article is by a fluidized bed method. It is not proper for the examiner to take the details of this fluidized bed method and attribute them to a spray method. Habsburg-Lothringen simply do not provide any details so as to make a complete disclosure of a spray method.

Hopeck describes a coating method in which connecting elements 16 and 18 of a dynamo-electrical machine are coated with epoxy powder by means of spray methods, and that layer thicknesses of up to 0.020 inches are produced. It is pointed out that these connecting elements of Hopeck are exterior pieces only. Hopeck has a dynamo electric machine 10 of the type having conductors which are hollow and carry coolant within the conductors. These conductors are of the nature of conductors made from 1/4 inch copper tubing. They run through the machine and their ends are exposed. Each of these ends must then be connected to another conductor by loop connections 16 and 18. It is these loop connectors which are coated by Hopeck.

Thus, the articles being coated by Hopeck are essentially elbows. As stated by Hopeck at column 3 lines 15-20, the articles coated do not include reentrant shapes at all similar to the

interior of slots in a dynamo electric machine.

From Hopeck one skilled in the art does not find any indication whatsoever that the spray method could be used for coating the surfaces which are inside the slots of a dynamo electric machine. This is precisely because the narrow slots of a primary element of a dynamo electric machine act as a Faraday cage. What Hopeck coats is a shape which does not at all equate to the slots of a dynamo electric machine.

Without the knowledge taught by applicant in the present application, previous methods of spraying simply cannot obtain coating thicknesses of the recited magnitude within the slots of a motor frame.

Even though Hopeck gives a measurement for the layer thickness of up to 0.045 inches, this measurement does not refer to the coating of the surface of interior of the slots, but only to external connecting elements, which are most equivalent elbows for 1/4 inch copper tubing.

Applicant's slots form a Faraday cage which would preclude the appropriate thickness of a spray coating from building up within them without some further knowledge beyond the teachings of Hopeck. The knowledge necessary to accomplish this is only presented for the very first time within applicant's disclosure.

In other words, a layer thickness such as recited in the present claims, including within the slots of a motor, is simply not attainable by a spray coating method without the knowledge which is disclosed for the very first time within the present application.

As one skilled in the art knows, the field lines of the electrical field that develops between the spray gun and the body being coated are concentrated at pointed protrusions of the body.

Inside the slots, a Faraday cage is created, which Faraday cage eliminates all field lines. Therefor the inside of the slots previously could not be coated to a sufficient thickness by spraying, and only after the advent of applicant's invention has it become possible to accomplish the recited thicknesses within the slots by a spraying method.

According to the presently claimed invention, particles of a defined size, having an average diameter greater than 150 μm, are used for the spraying method. By using such a coarse plastic powder which is sprayed onto the motor armature, including into the slots which forms a Faraday cage, a sufficiently large layer thickness of approximately 1.0 to 2.0 mm can be formed on both the outer circumference and also on the inner walls of the slots. In the course of the deposition of these coarse powder particles, markedly less electrical charge accumulates at the surface, so a potential difference continues to exist between the charged particles of the spray gun and the grounded dynamo electric machine.

Spraying this coarse-particle plastic powder, with a mean diameter of greater than 150 μm, however, has not previously been known to anyone skilled in the art. And especially, this concept is not taught by any of the cited references.

Quite the contrary. Until now, for the use of spray nozzles, it was only known to use markedly smaller particles with mean diameters of less than 100.

All of the claims in this application clearly recite the larger particle size used in a spraying application, and thus all of the claims define over the teachings of Hopeck.

While Matsuzaki et al. does disclose the use of a particle size in the range from 3 to 180 μm, the only disclosure in Matsuzaki et al. for doing any actual coating is found at column 5 lines

25-55, and is an "electrostatic fluidized bed" coating method and apparatus.

Matsuzaki et al. mention spraying at column 2 lines 57-68, but never teach using the larger sized particles for coating by using a spraying method. The spraying which Matsuzaki et al. mention at column 2 lines 57-68 is for checking the changeability of charge controlling particles. The spraying in Matsuzaki et al. **is not used for any coating process**. The only coating method or apparatus disclosed by Matsuzaki et al. is by using a fluidized bed. Matsuzaki et al. do not teach or suggest any spraying method or apparatus used for coating any elements which are at all equivalent to the dynamo electric devices recited in the claims to be coated by applicant.

And moreover, it is inappropriate to select the larger size particles taught by Matsuzaki et al. for use in a fluidized bed method and say that somehow it would be obvious to use these particles in a spraying method. Just like Habsburg-Lothringen, Matsuzaki et al. do not include any teaching whatsoever of using the larger sized particles in a spraying method. And taking these larger sized particles from the fluidized bed method and saying that because the reference mentions spraying they could be used for spraying is a complete misinterpretation of these references.

In further point of fact, the Matsuzaki et al. reference points precisely away from coating by using a spraying method, since Matsuzaki et al use a special "Charge-Controlling-Agent" (see claim 1 and column 2 lines 22-68). This "Charge-Controlling-Agent" is a multitude of particles having a diameter of 0.01 to 1 μm which are adhered to the larger particles of plastic. For technical reasons, reasons involving the entirely different sizes of particles, this

"Charge-Controlling-Agent," with its very small diameter particle size, cannot be sprayed together with the larger particles of up to 180 μm diameter by means of any known spraying methods or apparatus. The two entirely differently sized particles will simply not work together in any know spraying apparatus. This further precludes the use of Matsuzaki et al. as a valid teaching for anything other than a fluidized bed method of coating.

The fluidized bed coating method of Matsuzaki et al. for a motor armature is quite well known. However, as set forth in the background section of the present application, regardless of the particle size as taught by Matsuzaki et al., one skilled in the art finds no indication whatsoever from the prior art, not in Matsuzaki et al., not in Habsburg-Lothringen, and not in any of the cited prior art, of applying plastic powder with a particle size having a diameter of greater than 150 μm to a motor armature by means of "direct powder spraying". The only teaching of direct particle spraying with particles of a size greater than 150 μm comes from applicant's disclosure.

Therefore a combination of the cited references does not teach the particulars of the present invention in a way so that the references can properly be combined to make the limitations of the claims obvious. The only way the present invention can be realized from the prior art is based on impermissible hindsight, and only with knowledge of the present invention already in hand.

The teachings of the individual parts of the present invention cannot be properly put together from the cited prior art because these individual parts are not available knowledge **within the same coating method**. In the prior art, the larger sized particles are used only in a

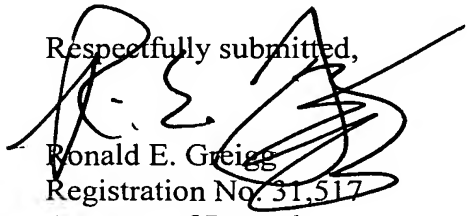
fluidized bed method, they are never used in a spraying method.

It is not proper, as the examiner has done in the rejection, to take individual parts of the present invention, which individual parts have been found in different coating methods, and apply these teachings to the spraying method recited in the claims of this application. The details of a fluidized bed method of coating cannot properly be transferred in an obvious sense to a spray method of coating.

As pointed out above, claims 12, 28 and 33, plus the claims which depend on them, are therefore not anticipated, and further are not made obvious, by the cited references.

For all of the above reasons, whether taken singly or in combination with each other, consideration of this response and allowance of the claims are courteously solicited.

Respectfully submitted,



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